



Minuteman Repeater Association

The Minuteman

Volume 54 Number 1 September 2024
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The Minuteman Repeater Association is a non-profit organization providing communications infrastructure and volunteers for community and emergency events.

Membership Meeting: Wednesday, 18 September 2024 ~7:30 - 9:30 pm

Interactions between Antennas in a 10/15/20m Stack

Larry Banks - W1DYJ

This is a Hybrid meeting: New England SciTech + ZOOM

(Directions to New England SciTech on Page 3)

Members: log into your account on [MMRA.ORG](https://mmra.org) to obtain the ZOOM info.

In 2000 Larry homebrewed a 5 element 10m Yagi and put it on a roof tower. In 2004 he added a 20m homebrew Moxon. Finally, in 2010 he added a homebrew 15m dipole. Now and then he heard something he didn't understand. Recent modeling revealed counterintuitive antenna patterns.

Larry was licensed in 1961 as novice KN1VFX and became W1DYJ in 1966. He was an engineer and project manager in Hewlett-Packard Medical's Cardiac lab in Waltham and Andover MA starting in 1969. In 1985 he started the Cardiac R&D lab's Printed Circuit CAD group and the SW Quality Testing team. He moved to HP Medical Education in 1993, responsible for technical and project management training. When Agilent split out of HP in 1999, he became Agilent Technology's global program manager for their Learning Management System. "Retiring" in 2005, he then consulted for Avago (now Broadcom) on eLearning technologies through 2012. Larry holds three degrees in EE from MIT. He spends his time chasing DX and contesting in Woburn, traveling with his wife Maren, and attending (now also streaming) many jazz and classical concerts. He is the net manager and newsletter editor for the MMRA, publications editor for HamXposition, and a member of the YCCC.

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Annual Meeting Results

**Important information about the
Annual Elections and the vote to
update our Bylaws**

See page 4

President's Corner ~ David Hornbaker, N1DCH**Welcome to the 2024-2025 MMRA Membership year!**

All MMRA memberships expire on August 31. Please check your profile and if your membership expires in 2024, please renew. Renewals may be done on the website, or you can mail your renewal to Minuteman Repeater Association, PO Box 669, Stow, MA 01775-0669. Please allow 7 days for us to process your renewal. Please allow 14 days for renewals that are mailed. While you're on the website (<https://www.mmra.org>) checking your expiration date, please verify your email address.

I would like to thank those that stopped by the MMRA booth during HamXposition. It was great seeing you in person! We had 2 new members sign up, 7 new hams applied for free memberships, and 27 renewals. We sold a total of \$362 in raffle tickets. We had more visitors at our booth's new location in the main hall

This year, the MMRA VE team lead by Ron – WO1E, conducted all three VE sessions on Saturday and Sunday. The team administered a total of 19 tests during the weekend. See below for a complete report.

Congratulations to the raffle winners and special thanks to those who participated in the MMRA raffle.

Join us for the September 18, 2024, membership meeting at New England Sci-Tech in Natick, MA. Larry Banks – W1DYJ will be discussing his 10/15/20m stack and the interactions between the antennas. If you cannot make it to Natick, this is a hybrid meeting, and the Zoom meeting information is available on the website (www.mmra.org). You must be logged into the website to view the information.

Join us Tuesday nights at 8:00 PM for our weekly Technical Information and Other Stuff (TlaOS) net. There will be a lively discussion on all sorts of HAM issues, including equipment, antennas, software, repeaters, and other stuff. The main purpose is to test our ability to link up the repeaters in case of an emergency, or to support some event like a marathon. You can also join via EchoLink if your radio is a little under the weather (or in my case too lazy to walk down to the shack). See below for more information.

You can find out more information about how and when the repeaters are linked on the website (https://www.mmra.org/repeaters/repeater_linking.html).

Please remember to keep your profile up to date, especially if your email changes. Note that if your callsign changes, send email to contact@mmra.org and we will update your callsign in the database.

Upcoming MMRA VE sessions:

The September VE Session will be held on Saturday, September 21st at 9:15 AM, at the Marlborough Public Library, Meeting Room 2, Marlborough, MA <https://www.bing.com/maps?q=22+Witherbee+Street+Marlborough%2C+MA+01752&PC=U531&FORM=ANCMS9>

The October VE Session will be held on Saturday, October 12th at 9:15 AM, at the Marlborough Public Library, David Meeting Room, Marlborough, MA <https://www.bing.com/maps?q=22+Witherbee+Street+Marlborough%2C+MA+01752&PC=U531&FORM=ANCMS9>

Walk-ins are welcome.

Please remember to bring a State ID, your FRN, and if upgrading, a copy of your current license (from FCC website) or proof of license from ARRL or QRZ website. For more information, contact Ron – WO1E at ve@mmra.org or wo1e@mmra.org.

Net Control Operators wanted! Interested in becoming a control operator for the TlaOS net? Larry is looking for a back-up operator. Contact Larry Banks – W1DYJ w1dyj@mmra.org.

Do you know someone that has passed the Technician test (element 2) in the last year? They are eligible for free membership in MMRA. Have them send email to contact@mmra.org requesting membership. The club secretary will contact them with details on how to qualify.

May Annual Meeting Results

Annual Officer Election ~ *Passed Unanimously*

- President: Dave Hornbaker, N1DCH
- Vice President: John Spencer, WA1MDD
- Secretary: Ken Horton, KA1GFN
- Treasurer: Kevin Paetzold, K1KWP
- Clerk: Stephen Babbitt, KC1LPZ
- Directors to 2026: Robert Evans, N1BE
James Lee, N1DDK

Vote on Emergency Repeater Repair Fund: \$4000 ~ *Passed Unanimously*

Vote on updating the MMRA Bylaws ~ *Passed Unanimously*

Over the past few months the Board of Directors has reviewed and updated the MMRA Bylaws. Here is the official notice sent out by acting secretary Kevin, K1KWP, on 28 March 2024:

The MMRA board of directors has approved revisions to the MMRA bylaws for the first time since 2012. A vote from the membership at the Wednesday May 15 Annual Meeting is required to approve these new bylaws. Thirty day notice of this vote is required.

The changes are essentially to clarify officer job descriptions, clarifying email voting procedures, clarification of what happens when the MMRA does not have a working email for a member, etc.

The MMRA bylaw is available at:

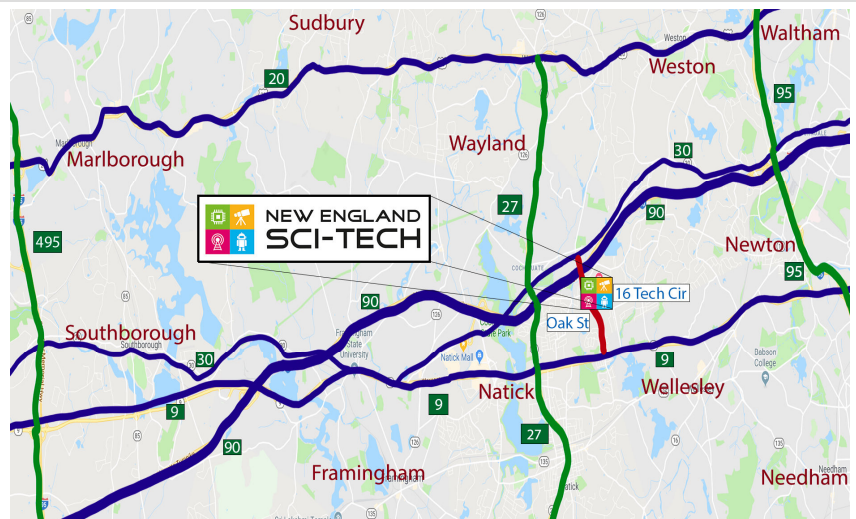
[https://www.mmra.org/mmra bylaws approved 05-15-2024.pdf](https://www.mmra.org/mmra%20bylaws%20approved%2005-15-2024.pdf)

Directions to New England Sci-Tech Inc. 16 Tech Circle Directions Natick MA 01760

From the north: take Rt 95 or Rt 27 or Rt 495 south to Route 30 toward Wayland. Once in Wayland, turn South on Oak Street and in 1/2 mile look for Tech Circle on your left. Follow Tech Circle to the end.

From the south: take Rt 95 or Rt 27 or Rt 495 north to Route 9 toward Natick. At the Wellesley-Natick line, turn North on Oak Street and in 1/2 mile look for Tech Circle on your right. Follow Tech Circle to the end.

From the east or west: follow either Rt 30 or Rt 9 toward Natick, turn onto Oak Street at a set of traffic lights, and in 1/2 mile look for Tech Circle. Follow Tech Circle to the end.



Northeast HamXposition 2024 ~ Review

The MMRA turned out in force for the Northeast HamXposition.

Here are a few highlights.



Kevin, K1KWP, our Treasurer and Stephen, KC1LPZ, our Clerk in our booth taking memberships, selling raffle tickets, and in general talking up the crowd.

Raffle Prizes

First Prize:

YAESU VX-6R 144 / 220 / 430 HT

Winner: John Flood, N1JAF

Second Prize: Weller WE1010NA 70W
digital soldering station and
Digital Multimeter

Winner: Peter Janney, KC1PBJ

Third Prize:

JUMBOSPOT MMDVM Hotspot

Winner: Joe Fratto, K1UN



John, N1JAF, picking up his VX-6R



Friday Dinner



The MMRA was delighted to have Dr. Tamitha Skov, WX6SWW, known as the "Space Weather Woman," and Saturday night's featured speaker, sit at our table. Her talk was outstanding!

FoxBox Report

Foxbox was hidden around 3PM on Thursday. As of Friday 5PM it seemed no hunters found the box so it was not moved until Saturday 5PM.

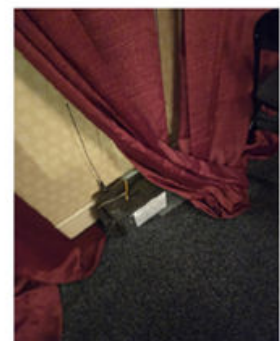
Box was found by W1SJ (on Friday 9:01PM) and K1JMC.

The yellow notepad which had been in the mailbox for 25+ years was missing. As a result perhaps other people found the box that we do not know about.



Foxbox was moved on Saturday 5PM.

Box was found by W1SJ at 08:53 PM on Saturday



VE Update: HamXposition+++ ~ Ron Rothman, WO1E

MMRA Conducting License Exams
at Northeast HamXposition.



Over the past year, the MMRA VE team conducted exams from August at HamXposition 23 until June 2024. Besides HamXposition and the Algonquin Flea, exams were held at the Marlborough Fire Station and City Church in Marlborough. July is the only month where exams are not given. During the 2023 / 2024 season, 57 exams were given. Twenty Six (26) Technicians, 11 Generals and 12 Amateur Extras either upgraded or earned a new license. Only six (6) candidates failed to earn a license.

This year we lost one of our own. Willie McConnell KB1MFG became a SK after a long illness. Willie joined the MMRA VE team on March 18, 2006. During that time, he participated in a total of 196 VE sessions. Willie will be remembered as always welcoming to

the candidates greeting them with a smile on his face and words that would put a nervous candidate at ease.

Willie will be missed!

MMRA conducted all three exam sessions at this years HamXposition 2024. Exams were held at 9:00 AM and 1:00 PM on Saturday August 24th and 10:00 AM on Sunday August 25th. The results were as follows:

Element 2 Technician	7 New Hams	
Element 3 General	4 Upgrades	
Element 4 Extra	2 Upgrades	
Failed to earn a license	6	Total taking a test: 19

The number of candidates is down from the pre-Covid days at Boxboro when MMRA had over 30 candidates at the 9:00 AM session alone. We need to do a better job of promoting testing at the convention.

I would like to thank all of the VE's who volunteered their time in the important job of licensing new hams

73, Ron – WO1E

The Amateur's Code

The Radio Amateur is:

CONSIDERATE...never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL...offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

PROGRESSIVE...with knowledge abreast of science, a well-built and efficient station and operation above reproach.

FRIENDLY...slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED...radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC...station and skill always ready for service to country and community.

Paul M. Segal, W9EEA, 1928

15 May 2024 Annual Meeting ~ Minutes

Called to order @ 7:30 PM / New England Sci-Tech, Natic MA

Elections: The Ballot Listing for the May 15, 2024, Annual Meeting

- President: Dave Hornbaker, N1DCH
- Vice President: John Spencer, WA1MDD
- Secretary: Ken Horton, KA1GFN
- Treasurer: Kevin Paetzold, K1KWP
- Clerk: Stephen Babbitt, KC1LPZ
- Directors: Robert Evans, N1BE / James Lee, N1DDK

Election: The entire slate of Officers and Directors was moved by W1DYJ, second by N1QPR and passed unanimously.

Emergency Fund: W1DYJ moved to allocate \$4,000, second by N1DCH was passed unanimously by the membership.

Bylaws: A motion by N1DCH, second by K1KWP that the proposed changes be accepted., which the membership has unanimously approved.

HamXposition – Larry – W1DYJ

Larry stated this event will have Dr Tamatha Skow as the main speaker on Space Weather..

Prizes: Bob purchased the 2nd and 3rd place prizes. One of the prizes, - our 1st place prize -- a Yaesu VX-6R HT was donated back to the MMRA.

Fox Box: Kevin will hide it 3 times during the Ham Exposition weekend.

Room Management regarding when and who will be there was discussed. No decision was finalized tonight.

Call-In Station The station will be operating.

Repeater Status Report: - Bob DeMattia – K1IW

New “Modset” architecture implemented across the network for easier / more reliable network re-configuration (900MHz Repeaters have not received the update yet).

Quincy 2m .67 Repeater: Making progress with the City of Quincy for 67’ replacement site.

(Formally) the Belmont Repeater: Currently working with the Town of Belmont for replacement site.

Billerica 147.12: Currently awaiting word from a Billerica private property owner for replacement site.

All other Repeaters: Functioning normally.

VE Exam Session

Saturday, May 18, 2024 at 9:00 AM

City Church Marlborough in the Shoebox Building (adjacent to Kelleher Field, 72 Jefferson Street, 2nd Floor, Marlborough, MA 01752

Please tell your friends, who are interested in taking tests, that they must have photo IDs and FRNs
Copy of license required if upgrading (or proof from the ARRL or QRZ)

Note: SS#s, are no longer accepted by the FCC. Everyone must have an FRN

15 May 2024 Annual Meeting ~ Minutes (continued)**Upcoming Meetings****August 25, 2024 12:00 PM**

HamXposition – Royal Plaza Hotel, Marlborough, MA

Introduction to the MMRA and Raffle

Tuesday nights @ 8:00 PM (year-round)

Technical, information and Other Stuff Net

MMRA Linked Repeaters

The meeting ended informally at 7: 54 PM.

Presentation by Kay Savetz - K6KJN - "Twenty Things I've Learned While Curating the Digital Library of Amateur Radio & Communications." To provide a simple summary she mentioned the "Wayback" machine that allows the ability to search the internet since its founding. The digital library is similar. Kay's presentation was in reverse order starting with item #20. **"Marshall H Ensor"**, created nightly one hour lectures – about 60 of them -- sponsored by QST. Item # 19 is "Hap Holly's" RAIN (Radio Amateur Information Network) Report which has 1300 episodes. Item #18 "Don't Mess with . . . the Museum Janitor who wrote in 1944 a letter requesting visitors not to throw their cigarette butts on the floor as ashtrays were provided. Item #17 had 40 years of TAPR Conferences, which preceded packet audio. More related Ham Radio conferences were included in this subject area. The MMRA Newsletters are filed under Item #15. That section includes Ham Club Newsletters that have been digitized along with many other club documents where available. Throughout this entire presentation so many HAM Related books, magazines, audio conversations, audio programs, videos in every imaginable format is being digitized. It seems like there is an inexhaustible supply of material. However, Kay pointed out their collection is far from complete with Item #2 giving us a listing of just a subset on what is identified as missing. The process of digitizing is ongoing as this library seeks to locate private collections. Item #1 is "Hams are generous with their knowledge" willing to share with others. Based on all the questions from us, this presentation clearly sparked a deep interest to continue to use this digital library on an ongoing basis. This digital library is addicting. *(Ed: some of these slides are shown on the next page.)*

DLARC is at: <https://archive.org/details/dlarc>

Meeting Attendees at NE Sci-Tech:

David Hornbaker, N1DCH; Larry Banks, W1DYJ; Ken Horton, KA1GFN; Deb Horton, N1NVJ; Kevin W Paetzold, K1KWP; Bill McIlnich, KA1MOM; Shelley Northrup, N1VJE; Bill Northup, N1QPR; Glenn Ghidaleson, WA2KRS; Bob Phinney, K5TEC;

Zoom Meeting Attendees:

Stephen Babbitt, KC1LPZ; Joe Fratto, N1RLO; Glenn Axelrod, KC1HPZ; Kay Savetz, K6KJN; Bob DeMattia, K1IW; Jim Babb, AA1BA; Mora Stone, WA1MCS; Larry Vidoli, W1LSV; Bob Deckert, KC1HCQ; John Nizke, KF1KI; John Iwuc, KB1VXY; Ken Peluso, KC1PFS;

Meeting Adjourned at 9:01 PM

Respectfully Submitted by Stephen M Babbitt, KC1LPZ, Clerk

May Annual Meeting ~ A Few of Kay Savetz' - K6KJN Slides



**Minuteman
Repeater
Association**

20 Things I've Learned
While Curating the
Digital Library of
Amateur Radio &
Communications

Kay Savetz, K6KJN

May 15, 2024

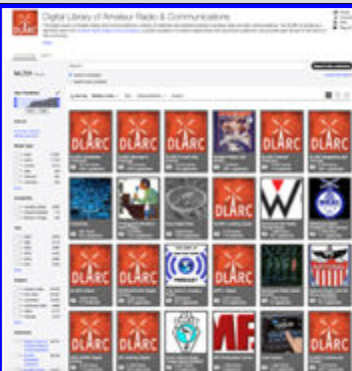
Version 2.0



Digital Library of Amateur Radio & Communications

<https://archive.org/details/dlarc>

kay@archive.org



<https://archive.org/details/dlarc>

20. Marshall H. Ensor



<https://www.ensorfamilymuseum.org/>

<https://archive.org/details/marshall-ensor>

19. Hap Holly's RAIN Report



<https://archive.org/details/rain-report>

<https://archive.org/details/rain-hamnet>

RAIN Report 01-01-01	RAIN Report 01-01-02	RAIN Report 01-01-03	RAIN Report 01-01-04
RAIN Report 01-01-05	RAIN Report 01-01-06	RAIN Report 01-01-07	RAIN Report 01-01-08
RAIN Report 01-01-09	RAIN Report 01-01-10	RAIN Report 01-01-11	RAIN Report 01-01-12
RAIN Report 01-01-13	RAIN Report 01-01-14	RAIN Report 01-01-15	RAIN Report 01-01-16
RAIN Report 01-01-17	RAIN Report 01-01-18	RAIN Report 01-01-19	RAIN Report 01-01-20
RAIN Report 01-01-21	RAIN Report 01-01-22	RAIN Report 01-01-23	RAIN Report 01-01-24
RAIN Report 01-01-25	RAIN Report 01-01-26	RAIN Report 01-01-27	RAIN Report 01-01-28
RAIN Report 01-01-29	RAIN Report 01-01-30	RAIN Report 01-01-31	RAIN Report 01-01-32
RAIN Report 01-01-33	RAIN Report 01-01-34	RAIN Report 01-01-35	RAIN Report 01-01-36
RAIN Report 01-01-37	RAIN Report 01-01-38	RAIN Report 01-01-39	RAIN Report 01-01-40
RAIN Report 01-01-41	RAIN Report 01-01-42	RAIN Report 01-01-43	RAIN Report 01-01-44
RAIN Report 01-01-45	RAIN Report 01-01-46	RAIN Report 01-01-47	RAIN Report 01-01-48
RAIN Report 01-01-49	RAIN Report 01-01-50	RAIN Report 01-01-51	RAIN Report 01-01-52
RAIN Report 01-01-53	RAIN Report 01-01-54	RAIN Report 01-01-55	RAIN Report 01-01-56
RAIN Report 01-01-57	RAIN Report 01-01-58	RAIN Report 01-01-59	RAIN Report 01-01-60
RAIN Report 01-01-61	RAIN Report 01-01-62	RAIN Report 01-01-63	RAIN Report 01-01-64
RAIN Report 01-01-65	RAIN Report 01-01-66	RAIN Report 01-01-67	RAIN Report 01-01-68
RAIN Report 01-01-69	RAIN Report 01-01-70	RAIN Report 01-01-71	RAIN Report 01-01-72
RAIN Report 01-01-73	RAIN Report 01-01-74	RAIN Report 01-01-75	RAIN Report 01-01-76
RAIN Report 01-01-77	RAIN Report 01-01-78	RAIN Report 01-01-79	RAIN Report 01-01-80
RAIN Report 01-01-81	RAIN Report 01-01-82	RAIN Report 01-01-83	RAIN Report 01-01-84
RAIN Report 01-01-85	RAIN Report 01-01-86	RAIN Report 01-01-87	RAIN Report 01-01-88
RAIN Report 01-01-89	RAIN Report 01-01-90	RAIN Report 01-01-91	RAIN Report 01-01-92
RAIN Report 01-01-93	RAIN Report 01-01-94	RAIN Report 01-01-95	RAIN Report 01-01-96
RAIN Report 01-01-97	RAIN Report 01-01-98	RAIN Report 01-01-99	RAIN Report 01-01-100

17. 40 Years of TAPR Conferences



<https://archive.org/details/tapr-meetings>

1.

**Hams are Generous
with Their Knowledge!**

<https://archive.org/details/donate2024nissm-dlarc>

<https://archive.org/details/dlarc>

kay@archive.org

18. In 1944, do not mess with...



<https://www.ensorfamilymuseum.org/>

15. Ham Newsletters—Around the World



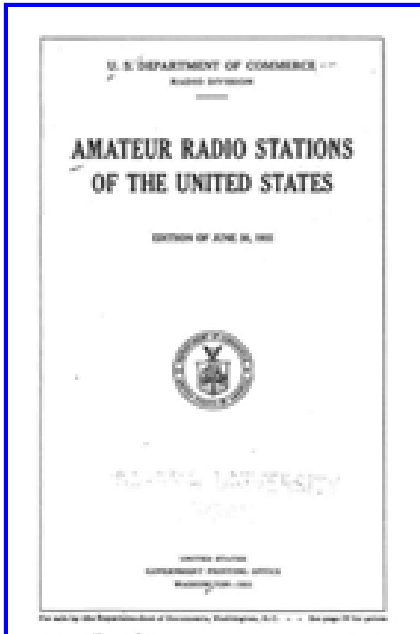
<https://archive.org/details/dlarc-newsletters>

<https://archive.org/details/dlarc>

DLARC: A Personal Perspective ~ Larry Banks, W1DYJ

Kay's presentation of the Ham Radio archive DLARC (see previous pages) immediately raised my curiosity about two topics.

Many of you know that W1DYJ is not my original call. I was first licensed as KN1VFX (novice) in December of 1961. W1DYJ is an "Additional Station License" I received in 1966 when I wanted a second station at my college apartment in Brookline. FCC regulations were far more strict back then — a second station at a different location required a separate "Station License." (This was way before Vanity Calls. Back then you could not purchase a call of your own choosing. You took whatever the FCC sent you.)



I have often wondered who was the first ham to have W1DYJ. DLARC gave me my opportunity. In the **Fall 1932** edition I found a **Ray Webster** in Duxbury with the call **W1DYJ/p**. Interesting! Like me, I guess Ray wanted a second call — a portable. I wonder if it was a vacation home? Ray is no longer listed in the 1937 edition.

← Ray was not in the **Summer 1931** edition. The last 1x3 listed in 1931 is W1CYE.

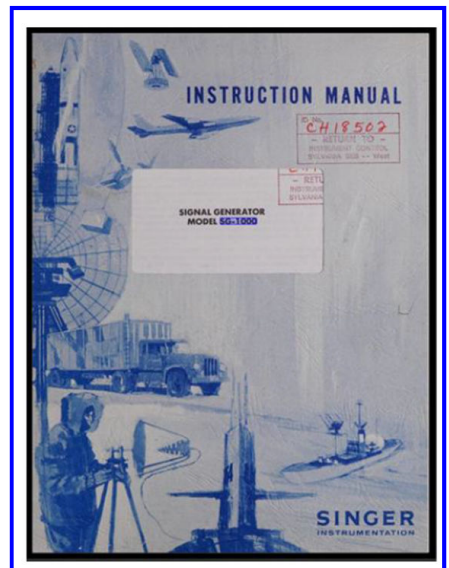
I found a **Bob Small** of **North Reading** in the **1946** edition, the year I was born. He wasn't in the 1947 edition. Two hams had **WN1DYJ** novice calls: **Dick Newton** in **Concord (1955)** and **Bob Bell** in **Norwalk CT**, summer **1965** and **Spring 1966**. Neither kept the call. I wonder if that is why I got the call in 1966 — someone at the FCC may have seen that Bob/WN1DYJ had dropped his license and was holding my request in their hand and decided to just give it to me! I consider myself lucky to have this call.

So, I'm the fifth person to have this call!

When Kay mentioned that DLARC has a lot of instrumentation manuals I was also immediately curious about whether I could find a manual for an instrument I worked on during the summers of 1967 and 1968. I was working in R&D for Singer Metrics in Bridgeport CT, near my hometown of Stratford. Singer Metrics was a division of Singer Sewing Machine Company. My project was to develop the control circuits of a low frequency extender plug-in (the SG-1001, seen to the right in the photo below) for a signal generator: the SG-1000. I learned all about waveguide cut-off frequency in this project.



**DLARC
has
many
gems!**



19 June 2024 Business Meeting ~ Minutes

Called to order @ 7:31 PM via ZOOM

HamXposition – Larry – W1DYJ –

Approved Tri-Fold printing not to exceed \$250.

MMRA Table will be in the hallway across from the exhibition hall.

Call in Station – Rig and Antenna

N1DCH – Antenna, Mast & Coax

K1KWP – Radio, coax and power supply.

Linking – last year we had all Marlborough repeaters linked. We decided not to link 6 & 10 this year – They are not listed in our program ad.

Foxbox – K1KWP plans on deploying on Friday and moving the Foxbox at least once.

Table Staffing – K1KWP will coordinate

A laptop and connected TV is also needed

Repeater Status Report: - Bob DeMattia – K1IW

Mendon 146.610 Link Receiver has failed – not decoding PL tones. Bob was able to fix this by recycling power on the link radio, but the problem returned two weeks later. A replacement radio is ready and will be swapped in the next time Bob can get to the site probably by the end of June.

(Formally) the Belmont Repeater – 145.430 – The Repeater is now on the air currently at Bob's house. Ed KC1CLA is going to the Town of Belmont on finding a new location. With a congested schedule, this may take a bit longer to resolve

Temporarily located in Boxborough

Small Antenna

Running 6W instead of 100W

Site elevation lower in height from its prior Belmont site

Quincy 2m .67 Repeater A letter was sent to the Mayor prior to Hamvention In a follow up call on May 31st, they indicated there were issues with the site we had suggested, but they are working on it. They will get back to Bob on it. Since no further word was said from the City of Quincy, the current plan is to leave the repeater in its current location until

They provide another site at which point we will move the repeater OR

They will tell us we have to go and '67 will go to the Marlborough East site.

Billerica 147.12: No further progress on a new site. The antenna is still at a tilt. The Current plan is to leave the antenna in place until the following:

We find another site at which point we will move OR

are told to move resulting in locating the repeater in Burlington

All other Repeaters: Functioning normally.

ARRL News Bulletin: Bob suggests we do a concise weekly report on the network. W1HAI offered his assistance. N1DCH, K1KWP, W1DYJ & KC1LPZ support this idea within the framework of Part 97.

Club Activities: - Stephen, KC1LPZ

Support to New or less Active Hams – The purpose of this agenda item is to precisely target the concerns and unasked questions that frustrate these folks from being active. Also attracting younger people to obtain a Ham Radio License.

19 June 2024 Business Meeting ~ Continued

Summary of the May 6th Regional ARRL Conference Call:

With various clubs struggling to address this same issue, several ideas were generated in the limited time we had on this conference call.

Greet, greet, greet – i.e. make new folks feel welcome to join in on what we do.

Follow up by engaging them to want to be involved.

Create activities at regular intervals such as social gatherings, workshops, training and Elmering to name a few of the wide range of Amateur Radio/Digital activities.

The ARRL does provide Grant Monies to many organizations that have specific programs getting young people “on the air”. On grant money the MMRA should support all the efforts K5TEC at the NE Sci-Tech Center does rather than duplicate their proven programs.

The MMRA brings the following assets:

On UHF and VHF we have 20+ Repeaters where anyone in Eastern Massachusetts and Southern NH can access to communicate with one another. Few Clubs have that kind of capability. Plus we have IRLP / Echolink to extend these capabilities.

K1KWP emphasized we need to reach out when we hear a new callsign using our system. He mentioned one example where the QSO with one individual extended to just over an hour.

On our weekly NET we must pay close attention to new folks joining us.

Welcoming and greeting new folks on our system is our major asset and we need to utilize our extensive system at every opportunity.

The MMRA's Drawbacks:

Social gatherings have not worked in the past because our members are geographically distant due to our extensive communication system resulting in extremely low attendance. That is one reason we also use Zoom as an alternative to increase attendance.

The MMRA does not do Field Day because our system does not extensively involve HF. Plus many of our members are involved in other surrounding clubs that do Field Day and are more local to these members.

Final Summary

Continue with our 1-year free membership. It does work. Many of us at tonight's meeting joined after our free membership expired.

Be aware when we hear a new callsign using our repeater system that we reach out to them to make them feel welcome. In that endeavor find out why they obtained their license and how we can help on an individualized basis.

VE Exam Session at HamXposition

Saturday & Sunday Morning

Please tell your friends, who are interested in taking tests, that they must have photo IDs and FRNs

Copy of license required if upgrading or proof from the ARRL or QRZ

Note: SS#s, are no longer accepted by the FCC. Everyone must have an FRN

19 June 2024 Business Meeting ~ Continued**Upcoming Meetings****August 25, 2024 12:00 PM**

HamXposition – Royal Plaza Hotel, Marlborough MA

Introduction to the MMRA and Raffle

September 18, 2024, 7:30 PM Membership Meeting –

Speaker: TBA

New England Sci-Tech & Zoom Teleconference

October 16, 2024 7:30 PM

Business Meeting

Zoom

November 20, 2024 7:30 PM Membership Meeting

Speaker: TBA

New England Sci-Tech

December 18, 2024 7:30 PM

Business Meeting

Zoom

Tuesday night 8:00 PM (year-round)

Technical, information and Other Stuff Net

MMRA Linked Repeaters

Newsletter

Information to Larry, W1DYJ

Special HamXposition edition deadline: Friday, July 26th

September Edition Deadline: Friday, August 30, 2024

Email W1DYJ@mmra.org

Meeting Attendees:

David Hornbaker, N1DCH;; Larry Banks, W1DYJ; Kevin W Paetzold, K1KWP; Stephen Babbitt, KC1LPZ; Ken Horton, KA1GFN; Joe Weisse, W1HAI; Bob DeMattia, K1IW; Roger Coulson, WA1NVC; John Spencer, WA1MDD; Ken Peluso, KC1PFS; Bob Evans, N1BE

Meeting Adjourned at 8:39 PM

Respectfully Submitted by Stephen M Babbitt, KC1LPZ, Clerk

Treasurer's Report ~ Kevin Paetzold (K1KWP)

The MMRA receives a donations each year. On behalf of the club I would like to acknowledge and thank the following members who have donated since my list in the May newsletter:

WW1U, N1CVO, K1UN, KA1SC, KA1GDQ

I was at the "NE HamXposition" on August 22-25. It was good to see so many members at the expo!

Upcoming MMRA Meetings

Meetings usually start at 7:30 PM
Meeting locations and times are subject to change.
Consult the MMRA website for the most up-to-date information.

ZOOM Teleconference login info is available
once you log into your account on MMRA.ORG

Non-members: if you wish to attend, email contact@mmra.org.

September 18, 2024: Membership Meeting

Speaker: Larry Banks - W1DYJ
Interactions between Antennas in a 10/15/20m Stack
New England Sci-Tech & Zoom

October 16, 2024: Business Meeting—Zoom

November 20, 2024: Membership Meeting

Speaker: Dave Hornbaker - N1DCH
Programming Your Radio with CHIRP
Marlborough Central Fire Station & Zoom

December 18, 2024: Business Meeting — Zoom

January 20, 2025: Membership Meeting

Speaker: TBD
Location: TBD

February 18, 2025: Business Meeting — Zoom

March 19, 2025: Membership Meeting

Speaker: TBD
Location: TBD

April 16, 2025: Business Meeting — Zoom

May 21, 2025: Annual Meeting & Elections

Speaker: TBD
Location: TBD

June 18, 2025: Business Meeting — Zoom

Don't Forget - Join Us!

Every Tuesday @ 8 PM
Technical, Informational and Other Stuff Net

The MMRA's repeaters are linked Tuesday nights for the
TIOS Net. Keep up with what's happening in the MMRA and
ask your ham related questions.

Net Control Operators:

Week 1 W1DYJ	Larry Banks
Week 2 K1BTZ	Jonathan Traum
Week 3 KC1CLA	Ed Curley
Week 4 K1KWP	Kevin Paetzold
Week 5 KB1OQA	Tom Turner

To connect using Echolink during the Net:
Echolink Conference *NEW-ENG2*

NOTE: we need another NC to be available as a substitute.
If you are interested, email W1DYJ@mmra.org

MMRA Leaders

Executive Board — Officers

President	Dave Hornbaker	N1DCH
Vice President	John Spencer	WA1MDD
Secretary	Ken Horton,	KA1GFN
Treasurer	Kevin Paetzold	K1KWP
Clerk	Stephen Babbitt	KC1LPZ

Executive Board — Directors

Director >2025	Bob DeMattia	K1IW
Director >2025	Roger Coulson	WA1NVC
Director >2026	Rob Evans	N1BE
Director >2026	James Lee	N1DDK

Appointed

Technical Officer Bob DeMattia K1IW

Repeater Trustees

Belmont 145.43	Ed Curley	KC1CLA
Billerica 147.12	Mike Rioux	W1USN
Boston 146.82	John Mullaney	K1BOS
Boston 927.0625	Rick Zach	KK1RZ
Brookline 145.16	Joyce DeMattia	K1MRA
Burlington 224.88	Bruce Pigott	KC1US
Hopkinton 447.775	Bryan Cerqua	W1BRI
Lowell 442.25	Bob Phinney	K5TEC
Marlborough 53.81	Bryan Cerqua	W1BRI
Marlborough: 29.68, 144.39, 147.27, 223.94, 449.575, 449.925, 927.70		
all as W1MRA	Bill Northup	N1QPR
Mendon 146.61	Kevin Paetzold	K1KWP
N. Reading 146.715	Bruce Pigott	KC1US
N. Reading 446.775	Larry Banks	W1DYJ
Quincy 224.40	Bill Dunn	N1KUG
Quincy 146.67	Bryan Cerqua	W1BRI
Weston 146.79	Joe Weisse	W1HAI
Weston 224.70	Eddie Mulhern	N1NOM
Weston 442.70	Dave Hornbaker	N1DCH

Additional, non-Voting

Newsletter Editor	Larry Banks	W1DYJ
Emerg. Coord.	Kevin Paetzold	K1KWP
Pub. Serv. Coord.	Bruce Pigott	KC1US
VEC Liaison	Ron Rothman	WO1E
Net Manager	Larry Banks	W1DYJ
Web Page Editor	Bob DeMattia	K1IW
Social Media Coord.	Steve Umans	K8ZBE

President Emeritus

Bob DeMattia K1IW

Technical Officer Emeritus

Bryan Cerqua W1BRI

About the Minuteman Repeater Association

MMRA Control Operators Responsibilities

<https://www.mmra.org/MMRACOPolicy-March2019.pdf>

The Minuteman Repeater Association (MMRA) is dedicated to Amateur Radio and public service. The MMRA maintains a large system of repeaters in Eastern Massachusetts.

The MMRA meets each month from September to June. Meeting times, locations, and talk-in frequency vary and are announced in this newsletter and on weekly nets. Meetings are open to all interested parties. Guest speakers and programs of general interest occur in September, November, January, March, and May. The intervening meetings are also open to all members and are for general business.

The Minuteman newsletter is emailed one week before each general interest meeting. Members are encouraged to submit articles: send to the editor at newsletter@mmra.org. The deadline for articles is the last Friday of the month preceding the meeting.

Each Tuesday evening at 8pm the MMRA links most of the repeaters for an open net. The topic is "Technical Information and Other Stuff". Join us!

Membership in the MMRA is open to all radio amateurs. Annual dues are \$25 per individual or \$35 per family. See our website for details.

Contact information is listed on the top of the last page of this newsletter.

No part of this newsletter can be copied or posted elsewhere without prior approval from the club.

MMRA QRM Policy

MMRA members and all other operators are strongly encouraged to report repeater activity that does not abide by Part 97 rules or accepted amateur radio practice to the board of directors at contact@mmra.org or via other means.

The most effective way (and probably the only effective way) to deal with an individual causing QRM is to NOT engage with that individual on the air. Please include the time and date of any incident.

Repeater and Frequency Information

Band	XMTR Location	Freq	PL	Call	Linking To:	
					Hub 1	Hub 2
10m	Marlboro East	29.680	131.8 Linked to 146.79: 9am-3pm every day	W1MRA	???	???
6m	Marlboro East <i>Remote receive Marlboro West: PL=100</i>	53.810	71.9	W1BRI	PTL	PTL
2m	Brookline	145.160	na	K1MRA	D-Star (REF050C)	
	Belmont	145.430	146.2	KC1CLA	Off the air	
	Mendon	146.610		K1KWP	FTL	PTL
	Quincy	146.670		W1BRI	FTL	PTL
	North Reading	146.715		KC1US	FTL	PTL
	Weston	146.790		W1HAI	PTL	PTL
	Boston	146.820		Linked to 29.68: 9am-3pm every day		
	Billerica	147.120 <i>Output tone = 162.2</i>		K1BOS	FTL	PTL
	Marlborough	147.270		W1DC	PTL	PTL
					W1MRA	PTL
1.25m	Marlborough	223.940	103.5	W1MRA	FTL	PTL
	Quincy	224.400		N1KUG	FTL	PTL
	Weston	224.700		N1NOM	PTL	PTL
	Burlington	224.880		KC1US	FTL	PTL
70cm	Lowell	442.250	88.5	K5TEC	FTL	PTL: 446.775
	Weston *	442.700	88.5	N1DCH	Network Hub 2 (PTL to Hub 1)	
	North Reading <i>System Fusion</i>	446.775	88.5 Linked 71.9 Local	W1DYJ	FTL [88.5]	PTL [88.5]
	Hopkinton <i>System Fusion</i>	447.775	88.5 Linked 71.9 Local	W1BRI	FTL [88.5]	PTL [88.5]
	Marlborough	449.575	na	W1MRA	D-Star (REF050C)	
	Marlborough *	449.925	88.5	W1MRA	Network Hub 1	
33cm	Boston *	927.0625	D244	KK1RZ	PTL	PTL
	Marlborough *	927.700 <i>PL out = 131.8</i>		W1MRA	PTL	PTL
Marlborough		144.390	none	W1MRA	APRS Digipeater	
???		145.630	146.2	W1MRA	Fox Box	
*Internet	HUB1– 449.925: IRLP node 4133 / Echolink node 4133 Connected to Echolink NEWENG2 conference (9127) for TIAOS net.					
	HUB2 – 442.700: IRLP node 4136 / Echolink node 4136 Connected to 220 Reflector 9124 on Tuesdays					
	927.0625: IRLP 4977			Normally linked to the NE900 Reflector, 9125. Linked to MMRA via “NEW-ENG2” node 9127 for the TIAOS net. Normally linked together.		
	927.700: IRLP 4978					
Notes: FTL = Full Time Linked (or default state) PTL = Part Time Linked (on schedule or demand) Note — a repeater can be linked to only one Hub at a time, however the two hubs can also be linked together.						

Contacting the MMRA



Members: mmra@groups.io

Note: This may take some time.

You must be approved by the moderator.

Officers: contact@mmra.org

Control Ops: control-ops@mmra.org



<http://www.mmra.org/>



<https://www.facebook.com/mmraham>

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MMRA VE SESSIONS

Check out <https://www.mmra.org/exam.html> or email ve@mmra.org

Ask your friends to become a member Just let them know that it is not fully automated. Although they can log into the MMRA website immediately, they need to be manually processed. This could take up to a week.

If you haven't updated your MMRA profile in a while, now is the time! Log into < [MMRA.ORG](http://www.mmra.org) > to do so.

Previous issues of the MMRA Newsletter are available at: [MMRA Newsletter Archive](http://www.mmra.org/newsletter/archive). They are also available at DLARC: <https://archive.org/details/minuteman-repeater-association>

Nets on the MMRA System

MMRA Technical Information and Other Stuff Net

Our weekly club net on most of the MMRA repeaters, Tuesday night at 8:00 pm local.

Heavy Hitters Traffic Net

This ARRL NTS net is active on our repeaters Sunday to Friday evenings from 9:45—11 PM and Saturday from 10-11.

Coast Guard Net

Sundays at 11:00 AM local.

ARES Net

First Monday at 8:30 PM local.

< https://www.mmra.org/repeaters/repeater_linking.html >



NEW ENGLAND SCI-TECH

New England Sci-Tech Inc is a new 501(c)(3) STEM education center, amateur radio training center, and maker space located at 16 Tech Circle, Natick. It is home to New England Amateur Radio Inc (NE1AR) and the youth radio club Sci-Tech Amateur Radio Society (STARS). NE Sci-Tech welcomes memberships and donations via www.NESciTech.org or www.NE1AR.org.

Get connected on the MMRA Repeater System ~ Dave Hornbaker N1DCH

What is the best way to get connected on the MMRA repeater system? Try announcing yourself! Just say your call sign followed by "listening". If you want, you can include the last 3 digits of the repeater frequency. For example, "N1DCH listening" or maybe "N1DCH listening on 925", you may very well get a response. Try to connect by announcing yourself several times.

Most of the time, Marlborough Hub1 (449.925) is linked to the following repeaters, Boston (146.820), North Reading (446.775 and 146.715), Mendon (146.610), Lowell (442.250), Hopkinton (448.225) and Quincy (146.67.) Remember that when the repeaters are linked, you need to wait two or three seconds after you key up and before you speak. This is especially important on the TlaOS net on Tuesday when most of the repeaters are linked.

You can also link (and delink) the repeaters yourself. See the information you received when you became a member, or check the [User Control Codes](#) once you log into the MMRA website.

Try one of the non-linked repeaters too. There are Hams monitoring them as well. For more information on the repeater network and how it is linked at various times, check out https://mmra.org/repeaters/repeater_linking.html.